

What is Claimed is:

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1. A heat engine in combination:
    - a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of an axis, for expanding and contracting fluids;
    - b) an elastic wall communicating with said chambers for expanding and contracting when said fluids expand or contract;
    - c) a means for shifting a weight off-center balance when said elastic wall expands or contracts, allowing gravity to rotate the apparatus about said axis;
    - d) a heat source for expanding said fluids;
    - e) a cooling source for contracting said fluids; and
    - f) a structure for supporting said expansion chambers, heat and cooling source, and providing an output motion in a particular direction from the rotation of said apparatus.
  2. The heat engine as claimed in claim 1, wherein said heat is from a plurality of sources.
  3. The heat engine as claimed in claim 1, wherein said motion is rotational.
  4. The heat engine as claimed in claim 1, wherein said motion is linear.
  5. The heat engine as claimed in claim 1, wherein said motion is reciprocal.
  6. The heat engine as claimed in claim 1, wherein said expansion chamber is selected from the group consisting of a bladder, diaphragm, and membrane.

7. The heat engine as claimed in claim 1, wherein said expansion chamber is a plurality of shapes.
8. The heat engine as claimed in claim 1, wherein said fluid is a gas.
9. The heat engine as claimed in claim 1, wherein said fluid is a liquid.
10. The heat engine as claimed in claim 7, wherein said shape further comprises one side of transparent material allowing said chamber to act as a solar collector.
11. The heat engine as claimed in claim 1, wherein said expansion chamber is a plurality of materials.
12. The heat engine as claimed in claim 9, wherein said liquid is highly expandable.
13. The heat engine as claimed in claim 1, wherein said heating side expansion chamber and said cooling side expansion chamber are diametrically opposed about the axis.
14. The heat engine as claimed in claim 13, wherein said cooling side is positioned and lags said heating side.
15. The heat engine as claimed in claim 14, wherein said heating and cooling sides are positioned about 45 degrees to 180 degrees apart.
16. The heat engine as claimed in claim 1, wherein said means for shifting a weight is a piston connected to said elastic wall that creates said off-center balance.
17. The heat engine as claimed in claim 1, wherein said means for shifting a weight is a channel allowing flow of said fluid, from said heating side to

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cooling side, by expansion of said heating side chamber elastic wall and the contraction of said cooling side chamber elastic wall that creates said off-center balance.

18. The heat engine as claimed in claim 1, wherein said fluids expand and contract on the same side and plane of said axis.
19. The heat engine as claimed in claim 1, wherein said cooling is from a plurality of sources.
20. A method of operating a heat engine apparatus comprising:
  - a) engaging a heat source;
  - b) heating and cooling a plurality of expansion chambers for expanding or contracting a fluid that with a weight shifting means moves said weight to an off-balance position providing a rotation of the apparatus; and
  - c) operating a structure for providing direction of said rotation.
21. The method of operating a heat engine as claimed in claim 20, wherein said heat is from a plurality of sources.
22. The method of operating a heat engine as claimed in claim 20, wherein said motion is rotational.
23. The method of operating a heat engine as claimed in claim 20, wherein said motion is linear.
24. The method of operating a heat engine as claimed in claim 20, wherein said motion is reciprocal.

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25. The method of operating a heat engine as claimed in claim 20, wherein said expansion chamber is selected from the group consisting of a bladder, diaphragm, and membrane.
26. The method of operating a heat engine as claimed in claim 20, wherein said expansion chamber is a plurality of shapes.
27. The method of operating a heat engine as claimed in claim 20, wherein said fluid is a gas.
28. The method of operating a heat engine as claimed in claim 20, wherein said fluid is a liquid.
29. The method of operating a heat engine as claimed in claim 26, wherein said shape further comprises one side of transparent material allowing said expansion chamber to further act as a solar collector.
30. The method of operating a heat engine as claimed in claim 20, wherein said expansion chamber is a plurality of materials.
31. The method of operating a heat engine as claimed in claim 28, wherein said liquid is highly expandable.
32. The method of operating a heat engine as claimed in claim 20, wherein said heating side expansion chamber and said cooling side expansion chamber are diametrically opposed about the axis.
33. The method of operating a heat engine as claimed in claim 32, wherein said cooling side is positioned and lags said heating side.
34. The method of operating a heat engine as claimed in claim 33, wherein said sides are positioned about 45 degrees to 180 degrees apart.

35. The method of operating a heat engine as claimed in claim 20, wherein said means for shifting a weight is a piston connected to said elastic wall that creates said off-center balance.
36. The method of operating a heat engine as claimed in claim 20, wherein said means for shifting a weight is a channel allowing movement of said fluid, from said heating side chamber to said cooling side chamber, by expansion of said heating side chamber elastic wall and contraction of said cooling side chamber elastic wall that creates said off-center balance.
37. The method of operating a heat engine as claimed in claim 20, wherein said fluids expand and contract on the same side and plane of said axis.
38. The method of operating a heat engine as claimed in claim 20, wherein said heat is from a plurality of sources.
- 39  
40. A heat engine in combination:
- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of an axis, for expanding and contracting fluids;
  - b) a means for shifting a weight off-center balance when said fluids expands or contracts, allowing gravity to rotate the apparatus about said axis;
  - c) a heat source for expanding said fluids;
  - d) a cooling source for contracting said fluids; and
  - e) a structure for supporting said expansion chambers, heat and cooling source, and providing an output motion in a particular direction from the rotation of said apparatus.

- 40
41. The heat engine as claimed in claim 40, wherein said heat is from a plurality of sources.
42. <sup>41</sup> The heat engine as claimed in claim 40, wherein said motion is rotational.
43. <sup>42</sup> The heat engine as claimed in claim 40, wherein said motion is linear.
44. <sup>43</sup> The heat engine as claimed in claim 40, wherein said motion is reciprocal.
45. <sup>44</sup> The heat engine as claimed in claim 40, wherein said expansion chamber is a plurality of shapes.
46. <sup>45</sup> The heat engine as claimed in claim 40, wherein said expansion chamber further comprises an internal baffle.
47. <sup>46</sup> The heat engine as claimed in claim 40, wherein said fluid is a liquid.
48. The heat engine as claimed in claim 40, wherein said expansion chamber is a plurality of materials.
- Sub C-71* 49. <sup>48</sup> The heat engine as claimed in claim 47, wherein said liquid is highly expandable.
50. <sup>49</sup> The heat engine as claimed in claim 40, wherein said cooling side is positioned and lags said heating side.
- Sub C-71* 51. The heat engine as claimed in claim 50, wherein said heating and cooling sides are positioned about 45 degrees to 180 degrees apart.
52. <sup>51</sup> The heat engine as claimed in claim 40, wherein said means for shifting a weight is a channel allowing movement of said fluid, from said heating side chamber to said cooling side chamber, by expansion of said fluid around said baffles that creates said off-center balance.

53.<sup>2</sup> The heat engine as claimed in claim 40, wherein said cooling is from a plurality of sources.

54.<sup>3</sup> A heat engine in combination:

- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of an axis, for expanding and contracting fluids;
- b) a means for rotating an element about an axis, when said fluids expands or contracts, by using inward moving actuators radial positioned about said axis;
- c) a heat source for expanding said fluids;
- d) a cooling source for contracting said fluids; and
- e) a structure for supporting said expansion chambers, heat and cooling source, said element, and providing an output motion in a particular direction from the rotation of said apparatus.

55.<sup>4</sup> The heat engine as claimed in claim 54, wherein said motion is rotational.

56.<sup>5</sup> The heat engine as claimed in claim 54, wherein said motion is linear.

57.<sup>6</sup> The heat engine as claimed in claim 54, wherein said motion is reciprocal.

58.<sup>7</sup> The heat engine as claimed in claim 54, wherein said expansion chamber is a plurality of shapes.

59.<sup>8</sup> The heat engine as claimed in claim 54, wherein said fluid is a liquid.

60.<sup>9</sup> The heat engine as claimed in claim 54, wherein said expansion chamber is a plurality of materials.

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61. The heat engine as claimed in claim 54, wherein said heating is from a plurality of sources.

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62. The heat engine as claimed in claim 59, wherein said liquid is highly expandable.

63. The heat engine as claimed in claim 54, wherein said cooling side is positioned and lags said heating side.

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64. The heat engine as claimed in claim 63, wherein said heating and cooling sides are positioned about 45 degrees to 180 degrees apart.

65. The heat engine as claimed in claim 54, wherein said element is selected from the group consisting of a cam, and a crank shaft.

66. The heat engine as claimed in claim 54, wherein said cooling is from a plurality of sources.

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67. A heat engine in combination:

- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of an axis, for expanding and contracting fluids;
- b) a means for rotating a ring about an axis, when said fluids expand or contract, by using outward moving actuators radial positioned about said axis;
- c) a heat source for expanding said fluids;
- d) a cooling source for contracting said fluids; and



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e) a structure for supporting said expansion chambers, heat and cooling source, said element, and providing an output motion in a particular direction from the rotation of said apparatus.

68. 7 The heat engine as claimed in claim 67, wherein said motion is rotational.

69. 6 The heat engine as claimed in claim 67, wherein said motion is linear.

70. 6 The heat engine as claimed in claim 67, wherein said motion is reciprocal.

71. 10 The heat engine as claimed in claim 67, wherein said expansion chamber is a plurality of shapes.

72. 1 The heat engine as claimed in claim 67, wherein said fluid is a liquid.

73. 7 The heat engine as claimed in claim 67, wherein said expansion chamber is a plurality of materials.

74. 7 The heat engine as claimed in claim 67, wherein said heating is from a plurality of sources.

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75. 4 The heat engine as claimed in claim 72, wherein said liquid is highly expandable.

76. 5 The heat engine as claimed in claim 67, wherein said cooling side is positioned and lags said heating side.

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77. 6 The heat engine as claimed in claim 76, wherein said heating and cooling sides are positioned about 45 degrees to 180 degrees apart.

78. 7 The heat engine as claimed in claim 67, wherein said ring is selected from a plurality of materials.

79. The heat engine as claimed in claim 67, wherein said cooling is from a plurality of sources.

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